Before The
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In The Matter Of	)	
Wireless Broadband Task Force Request for Comments on Its Report	)	GN Docket No. 04-163

COMMENTS OF QUALCOMM INCORPORATED

Dean R. Brenner
Senior Director, Government Affairs
QUALCOMM Incorporated
2001 Pennsylvania Ave., N.W.
Suite 650
Washington, D.C. 20006
(202) 263-0020
Attorney for QUALCOMM Incorporated

Dated: April 22, 2005

SUMMARY

QUALCOMM applauds the Wireless Broadband Access Task Force for its excellent report, and QUALCOMM is pleased to submit these comments and the accompanying materials. In particular, QUALCOMM wholeheartedly supports the report's recommendations that the Commission make "every effort" to clear the 700 MHz band for deployment of licensed wireless services by expediting the DTV transition and that the Commission consider ways to make it easier for 700 MHz licensees to use the spectrum before the completion of the DTV transition, including "clarifying or revising (the) interference criteria, and/or devising a streamlined process by which licensees can establish that their operations comply with the applicable interference criteria or only result in a de minimis impact on viewers." Report at Pgs. 62, 63.

As the Report notes, QUALCOMM has announced that it is launching a nationwide network on licensed 700 MHz spectrum, Channel 55, to deliver multimedia content (video, audio, and data) to third generation mobile phones. Report at Pg. 38. This new service, known as MediaFLO, has the potential to bring tremendous benefits to the American public and to drive growth in the wireless industry and the economy in general.

To launch this worthwhile new service throughout the entire nation, however, it is critical that the Commission follow the recommendations in the Report by "work(ing) with Congress" to establish a hard date to end the DTV transition (QUALCOMM, many other companies in the wireless,

telecommunications, and high tech industries, and CTIA, TIA, and the 700 MHz Advancement Coalition agree that the hard date should be December 31, 2006) and by clarifying the engineering criteria and adopting a streamlined process for the submission of engineering studies by 700 MHz licensees, as QUALCOMM has itself requested in a recently filed petition for declaratory ruling. See Report at Pg. 62.

QUALCOMM respectfully submits that the implementation of these twin recommendations should be among the Commission's highest priorities. QUALCOMM is not aware of any other action the Commission could take that would yield comparable benefits for the American public and in the near term to boot.

More generally, the Report correctly notes that American wireless carriers, including Verizon Wireless, Sprint PCS, and Cingular Wireless, are in the midst of nationwide deployments of 3G CDMA technologies (1xEV-DO and WCDMA/HSDPA, respectively) to deliver ubiquitous, advanced high-speed wireless broadband service over their licensed PCS and cellular spectrum, and these deployments will bring exciting new services throughout the nation. The demand for these services, here in the United States and around the world, continues to be very strong, as shown by many different metrics. As of January 2005, over 156 million people worldwide subscribe to 3G service based on one of the 3G CDMA technologies provided by 125 operators in 56 countries, all on licensed spectrum. Moreover, 56 different vendors supply 614 different devices (phones, PDAs, laptop cards, etc.) to these operators and, in turn, to their subscribers. Today, there are

well over 20 million WCDMA subscribers and 12 million 1xEV-DO subscribers, and subscriber growth continues to be steep and rapid.

For its part, QUALCOMM, which invented and then broadly licensed the core 3G CDMA technologies and which makes software and chips based on these technologies, continues to innovate and develop important enhancements to these technologies. Since June 2004, when QUALCOMM filed comments to the Task Force, QUALCOMM has announced that it is shipping samples of the chips for infrastructure and, just last week, for phones incorporating backwards compatible upgrades to the 1xEV-DO technology, an upgrade known as 1xEV-DO Revision A. Likewise, QUALCOMM is shipping samples of chips for phones based on an upgrade to WCDMA technology known as high speed downlink packet access ("HSDPA"). These upgrades will enable consumers to enjoy even faster data rates, both on the uplink and the downlink, which will drive additional services for consumers as operators deploy these upgrades on their licensed spectrum.

In addition, QUALCOMM is constantly improving the capabilities in its chips for mobile phones to enable subscribers to enjoy a wide variety of new multimedia services on 1xEV-DO and WCDMA/HSDPA networks. QUALCOMM's most advanced chips will incorporate a "convergence platform" which includes capabilities for advanced 3D graphics, enhanced sound, up to 6 megapixel cameras, high resolution video capability (30 frames per second), and VGA displays. Moreover, QUALCOMM is also developing breakthrough display technology that will enable phones to have screens with bright, reflective displays so that phone

screens will be visible in full sunlight and a significant reduction in power consumption from today's displays.

The Task Force's Report correctly captures many of the public policy implications of these developments. As the Report states, the Commission must "(m)ove even more aggressively" to get licensed spectrum into the hands of the operators who need it to provide these compelling services. Report at Pg. 6. This is another important reason to end the DTV transition as quickly as possible so that the remaining 60 MHz of 700 MHz licensed spectrum can be auctioned and put to use by licensees.

But, just as important as what the Commission should do to facilitate even more widespread deployment of these exciting 3G technologies is what the Commission should not do—the things that would retard or altogether prevent these deployments. The Commission should not allow unlicensed devices to operate on licensed spectrum. Licensees need and deserve protection from harmful interference, and licensed networks are not designed to operate in the face of interference from unlicensed devices.

Moreover, allowing unlicensed operations to gain access for free to licensed spectrum diminishes the economic value of licensed spectrum and threatens to depress the prices that future bidders will pay in FCC auctions for licensed spectrum. No one should get valuable spectrum for free—spectrum below 1 GHz should be auctioned, not given away. Further, no one should get free access to the

same spectrum for which others paid billions of dollars for licenses. Licensees have, and should continue to have, the exclusive right to use the licensed spectrum.

If there are any vacant channels in licensed bands, such as the TV bands, which can be used without causing harmful interference to adjacent channel and co-channel licensees, the vacant channels should be auctioned for licensed use. It is extremely difficult, if not impossible, to contain the interference from unlicensed devices operating in licensed bands even on vacant channels in those bands. No such technology exists today or in the foreseeable future. And, in any event, this valuable spectrum should not be given away for free, particularly not to the large companies lobbying for it.

QUALCOMM is involved in developing 802.11n unlicensed technology, and this technology has a role to play in short range, local area operations. But, the Report is absolutely right that consumers want wireless broadband wherever they work, live, and go, and only the wireless broadband technologies that operate on licensed spectrum can deliver that ubiquitous service. Unlicensed operations should be limited to dedicated spectrum, above 1 GHz, and not on spectrum already allocated or used for licensed services.

TABLE OF CONTENTS

Before The
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In The Matter Of	)	
Wireless Broadband Task Force Request for Comments on Its Report	)	GN Docket No. 04-163

To: The Commission

COMMENTS OF QUALCOMM INCORPORATED

QUALCOMM Incorporated ("QUALCOMM"), by its attorney and pursuant to Public Notice, DA 05-610, released March 8, 2005, hereby submits its Comments on the report issued by the Wireless Broadband Access Task Force (the "Task Force") entitled "Connected on the Go- Broadband Goes Wireless" (the "Report"), which contains the Task Force's findings and recommendations.

I. Background

In commenting on the Task Force's Report, QUALCOMM has two main interests:

First, QUALCOMM is the inventor and developer of the essential technologies that underlie the preeminent 3G wireless broadband standards, known collectively as 3G CDMA, which operate on licensed spectrum. Second, QUALCOMM holds licenses covering the entire nation on Block D in the Lower 700 MHz band, today's TV Channel 55. QUALCOMM purchased five of its six licenses in a FCC auction conducted in 2002 and the sixth license in a post-auction transaction. QUALCOMM

is launching an exciting, innovative service on this licensed spectrum to deliver high quality multimedia content to mobile devices, but QUALCOMM cannot complete the deployment to the entire nation until the Lower 700 MHz band is cleared of the broadcasters who will continue to occupy it until the DTV transition ends. Each of these interests is discussed more fully below.

A. 3G Wireless Technologies

QUALCOMM is a world leader in developing innovative digital wireless communications technologies and enabling products and services based on the digital wireless communications technologies that it develops. QUALCOMM has developed core technology known as code division multiple access ("CDMA"). This technology has been incorporated into standardized wireless technologies deployed by wireless carriers in the United States and around the world, including cdmaOne, which is the second generation ("2G") version of CDMA, and CDMA2000 and Wideband CDMA ("WCDMA," also known as "UMTS"), the third generation ("3G") versions of CDMA.

These technologies permit the delivery of high speed wireless service over licensed spectrum on a ubiquitous basis, in urban, suburban, and rural areas—the type of coverage to which wireless subscribers are accustomed—rather than to a hot spot or even an enlarged hot spot (a so-called metropolitan area). Likewise, CDMA technology uses licensed spectrum in the most efficient manner possible, to create as much capacity as possible in a wireless network for voice communications

and the greatest speed and throughput for data. CDMA technology does not waste any spectrum.

The CDMA2000 technologies include 1xEV-DO, the first version of which, 1xEV-DO Release O, enables wireless downloads over licensed spectrum at average rates of hundreds of kilobits per second and peak rates of 2.4 megabits per second. The Task Force's Report discusses the fact that Verizon Wireless has already deployed 1xEV-DO commercially in 30 markets across the country, and these markets cover more than 75 million people. See Report at Pg. 24. Verizon Wireless now sells three phone models and one PDA with EV-DO technology, with more to come. They also sell three EV-DO cards, which laptop users plug into laptop card slots to allow them to use EV-DO. Two of these card models, which were introduced after issuance of the Report, employ receive diversity, supported by QUALCOMM's second generation of EV-DO chips, the MSM 6500. This advanced feature supports even faster data speeds than the original card model. When Verizon Wireless completes its nationwide deployment of EV-DO by the end of this year, they will cover more than 150 million people.

Since issuance of the Report, ALLTEL has also launched EV-DO service in three markets—Cleveland, Tampa, and Akron. ALLTEL is also selling a laptop card model which incorporates receive diversity. ALLTEL is seeking Commission approval for its acquisition of Western Wireless, and in their Public Interest Statement filed with their transfer of control applications, ALLTEL stated that while, as a standalone company, it is launching EV-DO only in select markets in

2005, Commission approval of the acquisition "would facilitate the deployment of advanced services to rural areas" because the combined company "would have the resources necessary to expedite the deployment of advanced services in the rural areas it serves," as well as the purchasing power to lower the cost of acquiring equipment for advanced services. ALLTEL/Western Wireless Public Interest Statement (filed January 24, 2005) at Pgs. 6, 7.

Sprint PCS is in the midst of its deployment of EV-DO. This year, as a stand-alone company, Sprint had planned to deploy EV-DO in at least 39 major markets covering 129 million people. See Public Interest Statement of Sprint & Nextel (filed Feb. 8, 2005), Docket No. 05-63 at Pg. 26. The following year, Sprint would have extended EV-DO to a majority of its markets. Id. In their Public Interest Statement filed with the Commission by Sprint and Nextel in support of their merger, Sprint and Nextel stated that the merged company will deploy the upgraded version of 1xEV-DO known as 1xEV-DO Revision A ("DOrA") beginning in late 2006 or early 2007. Id. at Pg. 4. Sprint and Nextel noted that DOrA "supports exceptional call set up times, provides excellent service quality, and can be deployed to a market in a competitive time frame" and "has ideal characteristics as a platform for a high performance push to talk over feature over CDMA," which the merged company will deploy. Id. at Pg. 26. Sprint and Nextel recently explained that while on a stand-alone basis, Sprint had planned to deploy EV-DO on approximately 60% of its cell sites and 80% of the pops served by Sprint's CDMA network, the merged company will expand the EV-DO deployment to cover 100% of

the merged company's CDMA network. See April 7, 2005 Ex Parte filing by Sprint and Nextel, Docket No. 05-63.

Wideband CDMA technology also permits downloads at peak rates of 384 megabits per second. As the Report notes, AT&T Wireless, now part of Cingular Wireless, has already deployed WCDMA in six markets around the country. Report at Pg. 25. The backwards compatible upgrade to WCDMA is high speed downlink packet access ("HSDPA"). Cingular is now deploying WCDMA/HSDPA nationwide and will have 3G services in most markets by the end of 2006. See Cingular Press Release dated November 30, 2004.

Following issuance of the Report, two new mobile virtual network operators ("MVNOs") have announced plans to offer 3G services. First, SK-Earthlink is a joint venture of Earthlink and SK Telecom, the largest Korean wireless operator, and it will utilize 3G networks to offer an innovative suite of services. See Press Releases dated March 24, 2005 and January 26, 2005. Second, a MVNO by the name of Amp'd Mobile has been formed and has signed a letter of intent with Verizon Wireless to use the Verizon Wireless EV-DO network to deliver real time, user friendly mobile entertainment to young adults, ages 18 to 35. See Press Release dated March 15, 2005. QUALCOMM announced an agreement with Amp'd Mobile to enable the delivery of software applications ranging from games, video, entertainment, and information over the BREW platform, a software platform invented by QUALCOMM to enable the provision of downloadable software applications to mobile phones. See Press Release dated March 15, 2005. These new

MVNOs, together with the MVNOs already in the market, will bring yet another group of compelling advanced wireless broadband services to American consumers.

As already noted, QUALCOMM has also developed backwards compatible technology upgrades to both 1xEV-DO and WCDMA. The upgrade to EV-DO Release O is DOrA. At page 25 of the Report, there is a chart which shows EV-DV as the next upgrade in the migration path for a CDMA carrier after EV-DO. This is not the case. While EV-DV was once under consideration by several carriers, CDMA carriers around the world have decided not to deploy EV-DV and instead to migrate to DOrA after EV-DO Release O. QUALCOMM has already shipped samples of infrastructure and phone chips and software for DOrA and is not developing EV-DV in light of the decision of CDMA carriers in the United States and around the world to migrate to DOrA.

The backwards compatible upgrade to WCDMA, as already mentioned, is HSDPA. Both DOrA and HSDPA will permit downloads at even faster rates than the first 3G CDMA technologies, will also enable uploads at average rates of hundreds of kilobits per second, an especially important innovation that will enable consumers to use their wireless phones and other mobile devices to send video and other large files to one another, and offer extremely low latency. QUALCOMM has developed several phone chip models that support HSDPA as well as GSM/GPRS/EDGE and WCDMA/UMTS for backwards compatibility. Since issuance of the Report, QUALCOMM has announced broad support among handset manufacturers for its MSM6275 chip, the first chipset supporting HSDPA as well as

WCDMA/UMTS and GSM/GPRS/EDGE, and QUALCOMM has announced the development of the MSM6260, a cost effective chip with these same technologies.

While not discussed in the Report, QUALCOMM is constantly improving the capabilities in its chips for mobile phones to enable subscribers to enjoy a wide variety of new multimedia services on 1xEV-DO and WCDMA/HSDPA networks. QUALCOMM's most advanced chips will incorporate a "Convergence Platform" which includes capabilities for advanced 3D graphics, enhanced sound (3D sound and support for MP3), 6 megapixel cameras, high resolution video capability (30 frames per second), and VGA displays. Other QUALCOMM chips have less extensive, but still robust, multimedia features in platforms known as the Enhanced Multimedia Platform, which supports 4 megapixel cameras in wireless phones, and the Value Platform, which supports 1.3 megapixel cameraphones. Moreover, QUALCOMM is also developing breakthrough display technology that will enable phones to have screens with bright, reflective displays so that phone screens will be visible in full sunlight and a significant reduction in power consumption from today's displays. All of these innovations will further fuel the already burgeoning demand for wireless broadband services over 3G CDMA networks.

The Report does discuss the introduction of video services offered over mobile devices on licensed spectrum. Report at Pgs. 37-38. Here is some additional information about these innovative, exciting new wireless services. QUALCOMM has developed several technologies to enable the delivery of multimedia content to

mobile phones. Some of these technologies enable the delivery of such content on a one-to-one (so-called unicasting) or one-to-many (multicasting) basis over wireless networks that are also used for voice and data service via 3G CDMA. As the Report discusses, Verizon Wireless has launched an exciting new service called V Cast to deliver video clips to phones over their EV-DO network. V Cast uses unicast technology over the 1xEV-DO Release O network to provide subscribers with a wide variety of news, sports, entertainment, music videos, and other compelling video clips, updated on a continuous basis, on their 3G phones.

To expand the ability of wireless operators to deliver video over their 1xEV-DO networks, QUALCOMM has invented two multicasting technologies, EV-DO Gold Multicast and EV-DO Platinum Multicast. Gold Multicast is a software upgrade to EV-DO Release O networks that allows operators to provide several streams of video on a one-to-many basis, either live or sent to phones at times of day when the network is not heavily used. Gold Multicast is included in the base software for DOrA. Last week, QUALCOMM announced that it has begun shipping samples of chips for phones based on DOrA, which includes support for Gold Multicast.

In March 2005, at the CTIA Convention, QUALCOMM demonstrated EV-DO Platinum Multicast, a software enhancement for DOrA networks. Platinum Multicast achieves more than three times the capacity of EV-DO Gold, which translates into additional streams of content or higher resolution content with the same number of streams.

Although the unicast and multicast technologies allow CDMA operators to deliver video content over EV-DO networks, these networks are not dedicated to video and must use the capacity of the EV-DO networks, the same capacity used for voice and data services. This inherently limits the capacity available for video content, including the number of live streams or clips that can be transmitted.

As a result, QUALCOMM invented a multicasting technology to be used in dedicated spectrum known as FLO—forward link only. This technology is designed from the ground up to optimize a network dedicated solely to the one-way transmission of multimedia content, a network that will not take capacity away from the existing wireless networks. QUALCOMM designed FLO for the Lower 700 MHz band, where the Commission's rules allow base stations to operate at 50,000 watts. The combination of the superior propagation available at 700 MHz and the favorable power limits means that an operator can cover large areas with just a few towers, thereby reducing capital and operating costs.

B. QUALCOMM's MediaFLO Network on 700 MHz Spectrum

QUALCOMM holds licenses covering the entire nation on Block D in the Lower 700 MHz band, today's TV Channel 55. QUALCOMM purchased five of its six licenses in a FCC auction conducted in 2002 and the sixth license in a post-auction transaction. As the Report notes at Page 38, QUALCOMM has created a wholly-owned subsidiary by the name of MediaFLO USA Inc., which will use these licenses to deploy and operate a nationwide "mediacast" network, delivering high quality video and audio content, as well as innovative mobile data applications, to

third generation mobile phones at mass market prices and without impairing the capacity of existing wireless networks.

Beginning commercial operations as early as 2006 in many parts of the country, QUALCOMM will offer the network as a shared resource of U.S. CDMA2000 and WCDMA cellular operators, enabling them to deliver mobile interactive multimedia to their wireless subscribers without the cost of network deployment and operation. MediaFLO has been designed so that customers will have a familiar user experience, that is, a channel guide and the ability to pick and choose the type of content they want to view or listen to on their mobile phones. Some of the content will be available for real-time viewing while other content will be stored on the customer device for later viewing, a technique known as clip-casting.

The MediaFLO network will support between 50 and 100 national and local content channels, including 15-20 live streaming channels and numerous clip-cast and audio channels. MediaFLO will give content providers a major new distribution channel that complements their current offerings, enabling them to reach their audiences when those audiences are away from home and on the go. U.S. consumers will gain access to compelling multimedia services when and where they want them.

QUALCOMM's FLO technology in the 700 MHz spectrum offers distinct efficiency and cost advantages in delivering content to a very large mobile subscriber base. Deploying multicast transmitters on tall towers provides superior

coverage with 30 to 50 times fewer towers as compared to cellular and higher frequency-based unicast systems. Partnering wireless operators will be able to offer new interactive and differentiated services in conjunction with their existing cellular networks without the cost of further deployment or need for new spectrum. Moreover, FLO technology is specifically designed to minimize the power consumption and size of mobile phones and to be integrated into existing handset designs.

QUALCOMM now turns to the policy recommendations in the Report.

II. The Report Correctly Calls for the Commission to "Make Every Effort" to Clear the 700 MHz Band for New Licensed Services By Expediting the DTV Transition and Clarifying or Revising the Commission's Interference Criteria and Devising a Streamlined Process to Enable the New Licensees to Use the 700 MHz Band During the DTV Transition

The Report is dead right in making one of its principal recommendations to improve the

deployment of wireless broadband in licensed spectrum that the Commission expedite the DTV transition so that the 700 MHz spectrum can be used for licensed wireless services. Report at Pgs. 6, 62. QUALCOMM could not agree more with these words on page 62 of the Task Force's Report: "The Task Force recommends that the Commission continue to make every effort to ensure the availability of this spectrum in the most expeditious manner possible."

As the Report notes, there are two aspects to ensuring the availability of this spectrum as soon as possible: 1) establishing a hard date for the end of the DTV transition; and, 2) clarifying the Commission's interference rules and devising a

streamlined process to enable the new licensees to deploy wireless services in this spectrum while the DTV transition proceeds to completion. See Report at Pgs. 62-63. Establishing a hard date is not enough—the hard date has to be soon. QUALCOMM and many other companies and associations in the wireless, telecommunications, and high tech industries believe that the hard date should be December 31, 2006. Likewise, in its petition for declaratory ruling, a copy of which is being filed in this docket with these Comments, QUALCOMM makes a concrete proposal for the reasonable clarifications to the Commission's interference criteria and the streamlined procedures needed to permit QUALCOMM and other 700 MHz licensees to use the spectrum on a widespread basis while the DTV transition comes to an end.

The benefits to the public from the establishment of a hard date of December 31, 2006 for the end of the DTV transition and adoption of QUALCOMM's requested declaratory ruling will be rapid and far reaching. The Commission has already auctioned 18 MHz in the Lower 700 MHz band, in 2002 and 2003. QUALCOMM and the other licensees are working on their deployments. QUALCOMM's MediaFLO network will drive a new generation of highly beneficial services. Other licensees are waiting to deploy other licensed wireless broadband services on their licensed spectrum. These deployments will not take long to accomplish, once the Lower 700 MHz spectrum is clear. But, that will not happen until the DTV transition ends once and for all. And, in the meantime, the lack of clarity in the Commission's interference rules and the absence of any type of streamlined process

for submission of engineering studies is preventing use of the spectrum in many markets in which the spectrum could otherwise be used even during the DTV transition.

QUALCOMM now separately addresses each of the two aspects to clearing the 700 MHz band noted in the Report.

A. The Report Is Right That There Should Be a Hard Date Established for the End of the DTV Transition—a Hard Date of December 31, 2006

In its discussion of recommendations to improve access to licensed spectrum for wireless broadband services, the Report states as follows:

> The Task Force recommends that the Commission work with Congress to consider mandating a hard deadline for the completion of the DTV transition so as to free up spectrum for public safety and advanced wireless services and provide clarity to the industry and the public.

Report at Pg. 62.

QUALCOMM agrees with this recommendation, but it does not go far enough because it does not take a position on what the hard date should be. There is no doubt that the DTV transition has been an enormous undertaking, but it has gone on long enough. In 1987, some 18 years ago, the Commission issued its first inquiry into what was then called "advanced television services." See Notice of Inquiry, 2 FCC Rcd 5127 (1987). In the 18 years that followed, while the DTV standard was debated and adopted, while a Table of Allotments was issued, and over 1,400 TV stations across the country built and began operating DTV facilities, while Congress passed legislation in 1997 with a soft date for the end of the DTV transition, the nation changed dramatically. 170 million Americans purchased wireless phones

and came to rely on them for their daily communications needs. Digital wireless technology, both 2G and 3G was developed and refined by QUALCOMM and others. National wireless networks were built and even consolidated. The internet was born. QUALCOMM's wireless broadband technologies were developed, deployed, and have proliferated, as described supra.

In light of these fundamental changes in American life, it is clear that, as the Task Force found, the highest and best use of the 700 MHz spectrum is for licensed wireless broadband services—the types of services that QUALCOMM and the other Lower 700 MHz licensees want to deploy. The time has come to clear this spectrum and end the DTV transition by December 31, 2006. This is the position of TIA, CTIA, and the 700 MHz Advancement Coalition, as well as a large number of companies in the wireless, telecommunications, and high tech industries. Moreover, there is a coalition of companies and associations in these industries by the name of the High Tech DTV Coalition, who all agree on the need for Congress to set an early date certain for the end of the DTV transition.[1]

QUALCOMM appreciates the complexity of the DTV transition and understands that there are a number of serious issues that need to be resolved to enact legislation with a hard date of December 31, 2006. But, these issues can and must be worked out, and the Commission should work with Congress to do so.

[1] The High Tech DTV Coalition is composed of the following companies and associations: Alcatel, Aloha Partners, AT&T, Dell, Cisco, IBM, Intel, Microsoft, Texas Instruments, T-Mobile, Information Technology Industry Council, National Association of Manufacturers, the Business Software Alliance, the Semiconductor Industry Association, and QUALCOMM.

B. The Report Is Right That the Commission Should Clarify Its Engineering Criteria and Adopt a Streamlined Process to Permit 700 MHz Licensees to Use Their Licensed Spectrum During the DTV Transition

The Report contained the following recommendation:

> the Task Force believes that the Commission should also consider additional mechanisms for allowing 700 MHz channels to be used for wireless broadband services before the completion of the DTV transition. For instance, the Commission could consider ways to make it easier for wireless licensees to make use of the spectrum for wireless broadband services during the transition pursuant to more flexible policies that permit such licensees to use the spectrum so long as such action does not result in undue displacement of television viewers. In this regard, the Commission might consider clarifying or revising this interference criteria, and/or devising a streamlined process by which licensees can establish that their operations comply with the applicable interference criteria or only result in a de minimis impact on viewers.

Report at Pgs. 62-63.

This recommendation is right on the mark. The Commission has a rule, Section 27.60, governing adjacent channel and co-channel interference from new 700 MHz licensees to TV/DTV stations which is vague. It requires the new 700 MHz licensees to "reduce the potential for interference" to TV and DTV stations, and it sets forth four ways that a 700 MHz licensee may do so, including a catch-all that simply says that the 700 MHz licensee may "submit an engineering study justifying the proposed separations based on the actual parameters of the land mobile station and the actual parameters of the TV/DTV station(s) it is trying to protect." 47 C.F.R. Sec. 27.60 (b) (1) (iii). The rule does not explain the methodology that is appropriate to use in such a study; it does not explain what

type of justification is acceptable—i.e., what level of interference is de minimis; and, the rule does not explain how the Commission would process these engineering studies.

To obtain clarification of this vague Commission rule, on January 10, 2005, QUALCOMM submitted a petition for declaratory ruling, a copy of which is being filed in this docket. In its petition, QUALCOMM asks for three rulings from the Commission: 1) that engineering studies that use the OET-69 methodology to calculate interference be deemed acceptable; 2) that the de minimis standard established in Section 73.623 (c) (2) which governs interference from one DTV station to another DTV or TV station should also govern interference from a 700 MHz licensee's operations to an adjacent channel or co-channel TV or DTV station; and, 3) that engineering studies submitted by 700 MHz licensees be subject to streamlined processing, including a rebuttable presumption that they are in the public interest if they show that the 700 MHz licensee will not exceed the de minimis level of interference in a given market, and a shortened public notice period.

This relief is needed to permit QUALCOMM to launch MediaFLO in a number of markets where there is a TV or DTV station on Channels 54 or 56 or on Channel 55 in an adjacent market, but solely during the hopefully short time that the DTV transition continues since these stations will vacate the spectrum when the transition ends. For the very reasons noted in the Task Force's Report, this relief will advance the public interest by permitting QUALCOMM to bring the

benefits of MediaFLO to the residents of a number of markets, the vast majority of whom do not watch TV over the air and will not suffer any interference at all.

The Wireless Telecommunications Bureau issued a Public Notice seeking comments and reply comments on QUALCOMM's petition. See Public Notice, DA 05-87, released January 18, 2005. The comments and reply comments have been filed, and the vast majority of the commenters, including major public safety groups, such as the Association of Public Safety Communications Officials-International ("APCO") and the National Public Safety Telecommunications Council; companies such as Motorola, Access Spectrum, Aloha Partners, Harbor Wireless, and Corr Wireless; and, the association of 700 MHz licensees, the 700 MHz Advancement Coalition, all supported QUALCOMM's petition. The major broadcast trade association and a few broadcast groups opposed the petition, and the matter is pending.

QUALCOMM believes that the Task Force was correct in recommending that the Commission consider granting the type of relief that QUALCOMM has requested and awaits a ruling.

III. The Commission Should Not Allow Unlicensed Operations in Licensed Bands or Otherwise Give Away Free Access to Valuable Licensed Spectrum

The Task Force's recommendations are appropriately divided into sections addressing unlicensed and licensed spectrum, but the Task Force does not take a position on whether unlicensed operations should be allowed in licensed bands.

This is an important issue that continues to come up in a number of Commission proceedings. QUALCOMM strongly believes that the Commission should not allow unlicensed operations in licensed spectrum bands, that licensees should have the exclusive right to transmit in the spectrum for which they hold licenses, and that if there are vacant channels in licensed spectrum, such as in the TV bands, that the Commission should auction licenses for the spectrum rather than giving the spectrum away, particularly to the large companies who are seeking it.

QUALCOMM takes these positions not out of any animus to unlicensed technologies. As mentioned supra, QUALCOMM is developing 802.11n unlicensed technology, and QUALCOMM believes that unlicensed technologies have an important role to play in local area, short range communications—inside buildings, homes, on campuses, and the like. QUALCOMM also believes, however, that unlicensed technologies are simply not suited to wide area, longer range communications. Only licensed services operating on spectrum dedicated exclusively to licensed services can provide coverage over wide areas.

QUALCOMM has conducted extensive testing to determine the impact of allowing various unlicensed operations on licensed spectrum, and the tests have uniformly supported the same conclusion: unlicensed devices cannot operate in licensed spectrum without causing harmful interference to the licensed services.[2]

[2] QUACOMM filed its test results with the Commission in the proceeding over ultra wideband, Docket No. 98-153. See Ex Parte Filings dated March 5, 2001; January 11, 2002; February 1, 2002, Docket No. 98-153. See also Petition for Reconsideration filed June 17, 2002.

The Commission should accept this fundamental principle as it carries out its spectrum allocation and management responsibilities.

There are also important economic reasons and other equities that should compel the Commission not to allow unlicensed operations in licensed spectrum. Allowing unlicensed operations to gain access for free to licensed spectrum undermines the economic value of licensed spectrum and threatens to diminish the prices that future bidders will pay in FCC auctions for licensed spectrum. Simply put, bidders will not place a high value on licensed spectrum if there is a chance that sometime after the auction, the Commission is going to let companies and individuals use the auctioned spectrum for free. Potential bidders will only pay top dollar for auctioned spectrum if they are certain that after the auction, they and others will not be able to get access to the spectrum for free.

QUALCOMM believes that the Commission should ensure that no one gets valuable spectrum for free. Spectrum below 1 GHz should be auctioned, not given away for free. Just as important, the Commission should adopt policies to make sure that no one gets free access to the same spectrum for which others paid billions of dollars for licenses. Licensees have, and should continue to have, the exclusive right to use the licensed spectrum.

Recently, the focus of those seeking to enter licensed bands with unlicensed operations have shifted their focus from gaining access to whole bands via underlays/overlays to gaining access on vacant channels in the licensed bands. The Commission has a proceeding in which they are considering allowing unlicensed

operations on vacant TV channels, Docket No. 04-186 and 02-380. As QUALCOMM showed in its Comments and Reply Comments in that proceeding, it is extremely difficult, if not impossible, to contain the interference from unlicensed devices operating in licensed bands even on vacant channels in those bands. No such technology exists today or in the foreseeable future. And, in any event, this valuable spectrum should not be given away for free, particularly not to the large companies lobbying for it.

Consequently, if there are any vacant channels in licensed bands, such as the TV bands, which can be used without causing harmful interference to adjacent channel and co-channel licensees, the vacant channels should be auctioned for licensed use. This spectrum is a very valuable public resource and should not be given away to the large companies who are seeking it, principally so that they can get a competitive advantage over the licensed wireless carriers who have paid billions of dollars for their spectrum.

Unlicensed operations should be limited to dedicated spectrum, above 1 GHz, and not on spectrum already allocated or used for licensed services. Such a policy would ensure the continued high quality of licensed wireless services, would protect the value of licensed spectrum, would foster the economic growth that the wireless industry continues to spur, but would also allow the public to enjoy the types of unlicensed services for which unlicensed technologies are inherently suited.

IV. Conclusion

Once again, QUALCOMM applauds the Task Force for its excellent report and looks forward to continuing to work with the Task Force, other parts of the Commission, and the Commission itself in the implementation of the Report along the lines described herein.

Respectfully submitted,

By: /s/Dean R. Brenner
Dean R. Brenner
Senior Director, Government Affairs
QUALCOMM Incorporated
2001 Pennsylvania Ave., N.W.
Suite 650
Washington, D.C. 20006
(202) 263-0020
Attorney for QUALCOMM Incorporated

Dated: April 22, 2005